

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NEW JERSEY**

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KIMBERLY COLE and ALAN COLE, <i>et al.</i> , on behalf of themselves and all others similarly situated,	:	CIVIL ACTION NO.
	:	13-CV-07871-FLW-TJB
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Plaintiffs,	:	Filed
	:	
v.	:	Oral Argument Requested
	:	
NIBCO Inc.,	:	
Defendant.	:	
	:	

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**MEMORANDUM OF LAW IN SUPPORT OF  
DEFENDANT NIBCO, INC.'S MOTION TO EXCLUDE  
EXPERT OPINIONS AND REPORT OF CYNTHIA SMITH**

J. Gordon Cooney, Jr.  
(*pro hac vice*)  
Franco A. Corrado  
Morgan, Lewis & Bockius LLP  
1701 Market Street  
Philadelphia, Pennsylvania 19103-2921  
(215) 963-5000

Jean Paul Bradshaw II  
J. A. (Jay) Felton  
Kevin M. Kuhlman  
Rachel E. Stephens  
(all admitted *pro hac vice*)  
Lathrop Gage LLP  
2345 Grand Boulevard, Suite 2200  
Kansa City, Missouri 64108-2618  
(816) 292-2000

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Defendant NIBCO, Inc., by and through counsel of record, for its Motion to Exclude Expert Opinions and Report of Cynthia Smith, states as follows.

## **INTRODUCTION**

In this case, Plaintiffs allege that NIBCO's 1006 PEX tubing ("Tubing"), yellow brass fittings ("Fittings"), and stainless steel clamps ("Clamps") are defectively designed and prone to prematurely degrade and leak. On March 7, 2017, Plaintiffs' expert Cynthia Smith issued her report regarding the Tubing, Fittings, and Clamps, which are sometimes collectively referred to in her report, and herein, as the NIBCO PEX Products.

Many of Ms. Smith's opinions and conclusions or testimony from Smith reflecting the same must be precluded or limited because they fail to meet the rigorous standards for expert testimony as required under *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 589 (1993). Ms. Smith's analysis relies upon flawed methodology and questionable interpretation of data that would not be relied upon by experts in the industry. Broadly speaking, Ms. Smith's purported evidence is speculative, unreliable, and not supported by the facts of the case. Moreover, many of Smith purported opinions invade the province of the jury and are thus inadmissible as expert testimony. Specifically, Ms. Smith's findings and conclusions failed to satisfy *Daubert* in multiple respects.

**First**, Ms. Smith relies on OIT testing, which is meant as a quality control test for resin, not extruded PEX; she failed to consider what antioxidants NIBCO uses in its PEX Tubing in analyzing OIT results; and she tested field Tubing samples, which results in uncertain and subjective results.

**Second**, Ms. Smith's FTIR analysis of the oxidative degradation of PEX Tubing is based on an ASTM standard that is intended to be used on surgical implants, not PEX; she tested only five samples using this method despite allegedly having access to hundreds of samples; and her conclusion that these samples showed significant oxidation has no basis in the standard or published literature.

**Third**, Ms. Smith relies on gel testing, which she admittedly did not perform in compliance with the standard, even though she knows her deviation had an impact on the results, and which is intended to be done on tubing before it is put into service, not field-returned samples.

**Fourth**, Ms. Smith failed to test an appropriately representative sample of NIBCO's PEX Products; she tested a minuscule number of products and overly concentrated her work on allegedly failed products; and her conclusion that these products are universally defective is contradicted by NIBCO's warranty data.

**Fifth**, Ms. Smith lacks sufficient evidence to support her opinion that NIBCO's PEX Fittings and Clamps are defective because of the materials they are

made from; very few Fittings and Clamps from the named Plaintiffs' homes were collected at all, let alone actually failed, so her testing was limited; and she ignored clear evidence that the Fittings and Clamps failed due to installation- and/or vendor-related reasons.

*Sixth*, Ms. Smith's opinions should be excluded or limited to the extent she relies on inadmissible data from other lawsuits or data derived from testing of products from the homes of alleged "class members," when no class has been certified and those persons were not properly disclosed to NIBCO.

*Finally*, Ms. Smith improperly draws legal conclusions, invading the province of the jury.

## **BACKGROUND FACTS**

### **A. NIBCO**

NIBCO is based in Elkhart, Indiana. NIBCO has been manufacturing and selling plumbing products since 1922. These products include fittings, valves, piping, and tools to install and maintain these products.

Since 2004, NIBCO has sold plumbing tubing made out of cross-linked polyethylene ("PEX") for use in potable water applications, as well as fittings, crimps and clamps to be used with this PEX tubing. Fittings are used to connect tubing and crimps or clamps are used to secure the fitting to the tubing. From May 2006 forward, NIBCO manufactured its PEX tubing; NIBCO's PEX fittings,

crimps and clamps are vendor-sourced products made to NIBCO's specifications and sold under the NIBCO brand name.

At all times relevant, NIBCO's Fittings and Tubing were certified by independent agencies as meeting all necessary public health standards established by the National Sanitation Foundation ("NSF"), as well as the standards established by the American Society for Testing and Materials ("ASTM") for PEX tubing intended for potable water applications, including, ASTM F1807, ASTM F876, ASTM F877, and ASTM F2023. (*See* Ex. A, Lawrence Decl. ¶¶ 6-8; Ex. B, Clark Decl. ¶¶ 9-22.)

**B. Only A Minuscule Percentage Of PEX Is Reported To Have Leaked.**

Although Ms. Smith opines that all NIBCO PEX Tubing, Fittings, and Clamps are defectively designed, only a minuscule percentage of NIBCO's PEX Products is reported to have leaked. When NIBCO is contacted about an alleged product issue, its Technical Services Department initiates a Product Evaluation Request ("PER") and seeks to obtain a sample for evaluation. (Ex. C, McCoy Decl. ¶¶ 3-5.) NIBCO has shipped over 39 million pounds of Tubing, 35 million Fittings, and 17 million Clamps over the class period. (Ex. D, Coe Decl. ¶¶ 23, 25, 27.) Nationally, there have been only 756 PERs related to PEX Tubing, 203 PERs

related to Fittings, and 41 PERs related to Clamps, from 2007 to August 2015.<sup>1</sup>

These numbers show that NIBCO was contacted about a potential claim for less than .001% of its Tubing, non-LINX Fittings, or Clamps and demonstrate there is no widespread problem with any of these products.

### C. Plaintiffs' Proposed Expert Cynthia Smith.

Plaintiffs have put fourth Cynthia Smith of Paragon Polymer Consulting, LLC, as their expert on Tubing, Fittings, and Clamps.<sup>2</sup> Ms. Smith has a bachelor's degree in materials science and engineering. (Ex. E, Smith Report at App'x 1.) Through Paragon, she provides "forensic consulting for metals, polymers, and composites," including failure analysis and material testing and analysis. (*Id.*) Previously, she worked at Uponor North America ("Uponor") for over five years, where she performed failure analysis of metals and polymers, among other work. (*Id.*) Like NIBCO, Uponor manufactures and/or sells PEX tubing and yellow brass fittings, making it one of NIBCO's competitors.

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<sup>1</sup> Included in the Tubing total are all 76 Tubing PERs in the MS Access database and all 680 Tubing PERs in the SAP Report related to at-issue products. (See Ex. C, McCoy Decl. ¶¶ 16, 23.) Included in the Fitting total are all 26 Fitting PERs in the MS Access database and all 177 non-LINX Fitting PERs in the SAP Report related to at-issue products. (See *id.* ¶¶ 16, 32-33.) If LINX claims are included, the total would be 1,088 Fitting PERs. (*Id.* ¶ 20.) Included in the Clamp total are all 11 Clamp PERs in the MS Access database and all 30 Clamp PERs in the SAP Report. (*Id.* ¶¶ 16, 36.)

<sup>2</sup> Plaintiffs did not issue a formal designation for Ms. Smith as required by Fed. R. Civ. P. 26.

On March 2, 2017, Ms. Smith issued a 118-page report, which is hereinafter referred to as the “Smith Report.” Ms. Smith was deposed regarding her Report on May 24 and 25, 2017.<sup>3</sup>

### **1. Ms. Smith Opinions on NIBCO Tubing.**

The overwhelming majority of the Smith Report is dedicated to PEX Tubing.<sup>4</sup> Ms. Smith’s various opinions and conclusions regarding PEX Tubing are too lengthy to recount in full, but to summarize, she believes: (1) the incident Tubing “from the named Plaintiffs’ homes leaked due to through-wall brittle cracking resulting from oxidative degradation and creep rupture of the PEX material”; (2) there is no evidence that installation issues or environmental conditions “contributed significantly” to the failure of the incident Tubing; (3) all Tubing is “defectively designed” and that the “materials and manufacturing process were inadequately designed” and, thus, it is “likely to fail prematurely in potable water applications”; and (4) NIBCO knew or should have known the Tubing was defective. (Ex. E, Smith Report at 14-15, ¶¶ 1, 2, 5, 10; *id.* at 25. *See also id.* at 82-91, ¶¶ 1, 20-21; *id.* at 92.)

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<sup>3</sup> By agreement of the parties, Smith’s deposition was cross-noticed between this matter and *Meadow, et al. v. NIBCO, INC.*, Case No. 3:15-cv-1124 which is currently pending in the United States District Court for the District of Middle Tennessee. That case is referred to herein as “*Meadow*”.

<sup>4</sup> Only about nine pages of the Smith Report specifically address the Fittings or Clamps. (Ex. E at 34-39, 74-76.)

Ms. Smith claims that between this case and *Meadow*, she performed testing and analysis on 165 “failed and non-failed pipes” to “evaluate the root cause(s) of failure for the incident plumbing components.” (Ex. E at 43.) In fact, relative to the amount of Tubing removed from the homes of the *Cole* named Plaintiffs, Ms. Smith performed most of her testing on a very small amount of Tubing:

Technique	Number of Samples Analyzed
Home Inspection	7 residences of named plaintiffs
Dimensional measurements	> 200 - not all had both wall thickness and diameter measured
Visual and Optical Microscopy (Before and after tubing is slit)	36 samples
Fractography (Optical Microscopy)	12 samples
Fractography (SEM)	5 samples
Gel Content Measurement	11 samples
FTIR analysis using ATR method	2 from Cole, and 1 each from Sminkey, Peperno & Medders
Oxidation Induction Time	7 from residences of 5 named plaintiffs
Water Chemistry	7 residences of named plaintiffs

(Ex. M, Duvall/Shah Report at 94.)

Ms. Smith says she has “separately inspected and analyzed over 750 additional pieces of similarly-failed NIBCO 1006 PEX tubing” and “dozens of additional pieces of similarly-failed CPI PEX pipes.” (Ex. E at 18.) She lists four previous cases brought against NIBCO on which she worked—two federal cases (*Parsons* in North Carolina and *Mi Casita* in Indiana) and two state court cases (*Christianson* in Texas and *Comer* in South Carolina). (*Id.*) And she describes some of her work in those cases. (*Id.* at 19-20.) She claims that “leaking pipes associated with this class action failed in a virtually identical manner to the other 750+ pieces” of Tubing she analyzed in these other cases. (Ex. E at 14, ¶ 3; *see*

*also id.* at 19, 82-83.) Ms. Smith also holds the same opinion with regards to the Tubing from the *Meadow* case. (*Id.* at ¶ 5.)

Ms. Smith also cites the work of Plastic Failure Labs, which is not involved in this litigation but rather did work in conjunction with an investigation involving the Tubing used in homes built by Pulte Homes. (*See Ex. E* at 82, ¶ 2.) She also says she performed failure analysis on Tubing from the homes of four so-called “non-named class members.” (*Id.* at 13.)

Though she opines that the Tubing is defective, when pressed, Ms. Smith conceded that PEX Tubing could prematurely fail and leak due to a variety of reasons unrelated to the alleged defect. (*Ex. F, Smith Dep.* at 162:11-167:14 (freezing, temperature, physical damage can cause leaks); *id.* at 237:15-24 (“PEX tubing can fail due to a variety of reasons”)). Indeed, she previously was engaged to render an opinion in litigation filed against a plumber who installed NIBCO Tubing that leaked, and concluded that the same NIBCO Tubing at issue here failed because of excessive water pressure caused by the plumber’s installation errors, ***not a product defect.*** (*See id.* at 227:4-23, 234:18-235:9, 237:25-244:1; *Ex. G* at 3.)

## **2. Ms. Smith’s Opinions on NIBCO Fittings.**

Ms. Smith further claims that she performed destructive testing and analysis on “dozens of associated corroded brass fittings and fractured clamps” between

this action and the *Meadow* case in order to “evaluate the root cause(s) of failure for the incident plumbing components.” (Ex. E at 43.) However, she cites only eight fittings that she supposedly evaluated in the body of her Report. (*See id.* at 36-39, 75-76.) In essence, Ms. Smith opines that 35 million Fittings are defective based on her evaluation of just eight.

Ms. Smith claims premature Fitting failures “have occurred in at least two homes from this class action.” (*Id.* at 14, ¶ 6.) Even though Fittings have been installed and in use for years in the homes of several named Plaintiffs in this action, from her limited analysis in this case, Ms. Smith concludes that all NIBCO’s yellow brass Fittings are defectively designed because they contain “greater than 15% zinc” and, thus, are supposedly “vulnerable to premature failure due to dezincification corrosion and stress corrosion cracking” in plumbing applications. (*Id.* at ¶ 7.) She further concludes that “[w]hen failure occurs by either mechanism, the fittings allow water to weep through the wall of the fitting, leading to water damage and mold over time, or the fitting can break in two causing a potentially catastrophic loss of water.” (*Id.* at 92.)

Notwithstanding her conclusions in this case, when hired to by a different manufacturer to opine on F1807 yellow brass fittings with greater than 15% zinc (like NIBCO’s Fittings), Ms. Smith reached the exact opposite conclusion. She opined that this same “design has been successfully used in the plumbing industry

for a number of years” and blamed a stress corrosion crack like that alleged here on the manufacturer’s deviation from the same F1807 design followed by NIBCO, not on an improper material selection. (*See* Ex. H., Smith Aff. ¶ 14.)

### **3. NIBCO Clamps.**

Plaintiffs have not moved for certification of any claim over Clamps, and each of their individual tort claims over Clamps has been dismissed from this lawsuit. Still, Ms. Smith has rendered an opinion about all NIBCO Clamps even though she examined Clamps from just one of the named Plaintiffs’ homes.

With respect to Clamps, Ms. Smith says she performed destructive testing and analysis on “dozens of associated corroded brass fittings and fractured clamps” between this action and the *Meadow* case in order to “evaluate the root cause(s) of failure for the incident plumbing components.” (Ex. E at 43.) But she cited only three Clamps in the body of her Report that were either cracked or showing “signs of stress corrosion cracking.” (*Id.* at 39.) From her analysis, Ms. Smith concluded: (1) the Clamps are “all made from austenitic stainless steel, which renders them vulnerable to premature failure due to stress corrosion cracking in the presence of chlorides”; that Clamps are “defectively designed (due to improper material selection for the intended application) and inherently vulnerable to premature failure;”, and (3) that NIBCO knew or should have known the Clamps were defectively designed. (*Id.* at 14-15, ¶¶ 8-9, 12; *see also id.* at 92.)

## ARGUMENT AND AUTHORITY

### **A. *Daubert* Requires Plaintiffs To Make Threshold Showings Of Relevance And Reliability.**

Federal Rule of Evidence 702 governs the admission of expert testimony and provides that an expert may testify if:

- a) The expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- b) The testimony is based on sufficient facts or data;
- c) The testimony is the product of reliable principles and methods; and
- d) The expert has reliably applied the principles and methods to the facts of the case.

In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993) the United States Supreme Court made clear that a district court must ensure all expert testimony or evidence admitted “is not only relevant, but reliable.” *Id.* at 589; *see also Oddi v. Ford Motor Co.*, 234 F.3d 136, 144 (3d Cir. 2000) (discussing “general observations” that “serve as guideposts in determining if proffered expert testimony is sufficiently relevant and reliable to be admissible”). The Court must make preliminary assessments of “whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue,” which also is characterized as the “fit” analysis. *Daubert*, 509 U.S. at 592-93; *see also id.* at 591. The proponent of expert testimony bears the burden to establish both

relevance/fit and reliability. *See In re TMI Litig.*, 193 F.3d 613, 663 (3d Cir. 1999).

*Daubert* provides a non-exclusive checklist for trial courts to consult in evaluating the reliability of expert testimony, including testing, peer review, error rates, the existence of standards controlling the technique's operation, and general acceptance in the relevant scientific community. *Schneider ex rel. Estate of Schneider v. Fried*, 320 F.3d 396, 405 (3d Cir. 2003) (citations and quotations omitted). These identified factors are not exhaustive or definitive; the “measures of reliability in a particular case is a matter that the law grants the trial judge broad latitude to determine.” *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 153 (1999).

A trial court should exclude an expert opinion when the analytical gap between the data and the proffered opinion is too great. *See Daubert*, 509 U.S. at 590 (to be reliable, expert testimony must be “supported by appropriate validation—*i.e.*, ‘good grounds,’ based on what is known.”). “[T]he expert’s opinion must be based on the ‘methods and procedures of science’ rather than on ‘subjective belief or unsupported speculation.’” *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 742 (3d Cir. 1994).

Moreover, “nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too

great an analytical gap between the data and the opinion proffered.” *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997).

**B. Ms. Smith’s Testimony On Tubing Should Be Limited Or Excluded Because It Fails To Meet *Daubert*’s Standards For Reliability Or Relevance To The Issues At Hand.**

**1. Ms. Smith should be barred from relying on OIT testing to support her opinions and conclusions.**

In support of her opinion that the Tubing is defective, Ms. Smith relies in part on Oxidation Induction Time (“OIT”) testing done on NIBCO’s behalf and OIT testing that she claims to have performed on an exceedingly limited number of Tubing samples removed from the named Plaintiffs’ homes. (Ex. E, Smith Report at 27-29, 67-72.) OIT testing measures oxidative stability of PEX, but it is not relevant to or reliable for the purpose for which Ms. Smith is using it. Thus, Ms. Smith should be barred from relying on any OIT results to draw conclusions regarding the performance of the Tubing in service.

Despite the availability of 165 Tubing samples (Ex. E at 33), Ms. Smith performed OIT testing on just seven specimens removed from the named Plaintiffs’ homes and presented the results of just two of these samples in her Report. (*Id.* at 66, 69). Ms. Smith claims to have conducted her OIT testing “in general accordance with ASTM D3895.” (*Id.* at 66.) ASTM<sup>5</sup> D3895 is the

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<sup>5</sup> ASTM International, originally known as the American Society for Testing and Materials, is a standards organization that develops and publishes consensus

“Standard Test Method for Oxidative-Induction Time of Polyolefins by Differential Scanning Calorimetry.”<sup>6</sup> (Ex. I.) Section 5 of D3895 contains critical warnings regarding the “Significance and Use” of OIT testing:

## **5. Significance and Use**

5.1 The OIT is a qualitative assessment of the level (or degree) of stabilization of the material tested. This test can be used as a quality control measure to monitor the stabilization level in formulated resin as received from a supplier, prior to extrusion.

NOTE 2—The OIT measurement is an accelerated thermal-aging test and as such can be misleading. Caution should be exercised in data interpretation since oxidation reaction kinetics are a function of temperature and the inherent properties of the additives contained in the sample. For example, OIT results are often used to select optimum resin formulations. Volatile antioxidants may generate poor OIT results even though they may perform adequately at the intended use temperature of the finished product.

NOTE 3—There is no accepted sampling procedure, nor have any definitive relationships been established for comparing OIT values on field samples to those on unused products, hence the use of such values for determining life expectancy is uncertain and subjective.

(*Id.* § 5.) As this section notes, OIT is an accelerated thermal-aging test. Indeed, OIT testing is done at 200°C (almost 400°F), which well above the temperatures that PEX Tubing experiences in service.<sup>7</sup>

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technical standards for a wide range of materials, products, systems, and services. (Ex. B, Clark Decl. ¶ 3.)

<sup>6</sup> An ASTM Test Method is “[a] definitive procedure that produces test result[s]” that represents “the best currently available test procedure for the use intended.” Wilhelm, Richard, “Know Your Types of Standards,” Standardization News (October 2000), [https://www.astm.org/SNEWS/OCTOBER\\_2000/oct\\_howto.html](https://www.astm.org/SNEWS/OCTOBER_2000/oct_howto.html) (last visited July 28, 2017).

ASTM F876, the Standard Specification for Cross-linked Polyethylene (PEX) Tubing, ***does not require OIT testing at all***, let alone that used PEX Tubing exhibit a particular degree of stabilization. Instead, it explicitly similarly warns that “OIT tests are not an indicator of life expectancy, nor should differences in OIT values between compounds be construed to indicate differences in the stabilizer effectiveness of respective formulations.” (Ex. J, F876 at App’x X1.6 (emphasis added).)

Ms. Smith improperly tested Tubing that had been in use in the named Plaintiffs’ homes to evaluate “the degree of *residual stabilization* of the PEX material at various locations in select tubing samples.” (Ex. E at 66.) She claims that the results for these seven specimens show that the Tubing is “insufficiently stabilized” (*see id.* at 83-91 at ¶¶ 4, 8, 12-13, 16-17, 25), and ultimately concludes that “[w]ere it not for the fact that the [Tubing] was insufficiently formulated and insufficiently stabilized for the intended application, the [T]ubing installed in the named Plaintiffs’ homes would not have failed in the manner that it did.” (*Id.* at 90, ¶ 22.) Ms. Smith’s findings and opinions regarding the OIT results of the Tubing should be excluded for several reasons.

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<sup>7</sup> The NIBCO PEX Tubing at issue in this case carried a “1006” designation, meaning the Tubing was rated for having the minimum chlorine resistance for use in a potable water system that spends no more than 6 hours per day circulating water at or below a maximum temperature of 140°F (60°C). (Ex. D, Coe Decl. ¶ 17; *see also* Ex. J § 3.2.7.1(2).)

***First***, as ASTM D3895 states, OIT is merely a “qualitative assessment of the level (or degree) or stabilization” and is intended as a “quality control measure to monitor the stabilization level in formulated resin as received from a supplier, prior to extrusion.” (Ex. I (emphasis added).) In other words, OIT tests one ingredient in the product at a time before it is manufactured and extruded into Tubing, which is before it can even be referred to as PEX, and is not intended as an indicator of the finished product’s durability or as a means to evaluate finished Tubing that has been in service for years like the samples selectively tested by Ms. Smith. As stated in the standard itself, even a product with poor OIT results “may perform adequately at the intended use temperature of the finished product.” (*Id.* (emphasis added).) Indeed, Ms. Smith admits that OIT testing cannot be used to determine the life expectancy of the Tubing. (Ex. F, Smith Dep. at 118:18-119:10.)

This alone is grounds to exclude OIT testing from consideration, as other courts have done when an expert improperly relied on pre-manufacturing quality control testing in formulating an opinion with regards how a finished product will perform (or has performed) in the field. In *Castrol Inc. v. Pennzoil Co.*, 799 F. Supp. 424 (D.N.J. 1992), *aff’d*, 987 F.2d 939 (3d Cir. 1993), the district court found Penzoil’s reliance on certain testing misplaced because the ASTM standard at issue was “adopted . . . as a quality control tool for manufacturing purposes, not as an industry standard on viscosity breakdown.” *Id.* at 437.

Similarly, here, ASTM D3895 is explicitly intended only to provide a “qualitative assessment” of resin prior to extrusion. (Ex. I.) Nothing in the standard suggests it can or should be used as a diagnostic tool for extruded PEX Tubing that has been in service for years and exposed to various temperatures, degrees of pressurization, and diverse (and potentially aggressive) water conditions. *See In re: Pella Corp. Architect & Designer Series Windows Mktg., Sales Practices & Prod. Liab. Litig.*, 214 F. Supp. 3d 478, 486 (D.S.C. 2016) (noting ASTM E1105 is a quality assurance test for evaluating compliance with performance standards rather than actual performance, but another standard did allow for it to be used diagnostically if adapted for that purpose). It is not a reliable methodology for reaching the conclusions set forth in Ms. Smith’s report.

**Second**, Ms. Smith’s interpretation of the results of her OIT testing also is unreliable because she did not consider the specific antioxidants used by NIBCO in the Tubing. ASTM D3895 warns that volatile antioxidants may generate poor OIT results, yet the tubing may still perform adequately when put into service. (Ex. I § 5.) But, Ms. Smith admits that she has not evaluated the antioxidants in the Tubing and does not know whether those antioxidants were volatile such that they would have adversely and improperly affected the results. (Ex. F, Smith Dep. at 119:11-22; 120:25-121:11.) Her complete failure to account for this variable undermines the reliability of her interpretation of any results.

**Third**, Ms. Smith tested “field samples” from the named Plaintiffs’ homes, not unused products, so the meaning of her (or any) results of OIT testing of the Tubing are “uncertain and subjective.” (Ex. I.) She cites no literature or publications that support the use of OIT testing as she has done in her Report. In fact, her use of OIT results is contrary to the express warnings in both ASTM D3895 and F876. Thus, Ms. Smith’s unsupported, subjective interpretations of the OIT results are not sufficiently reliable to be admissible.

In sum, the OIT data on which Ms. Smith relies and the conclusions she derives from that data should be stricken because that data is not the type on which experts in Ms. Smith’s field reasonably rely for the purposes of evaluating extruded tubing (either before or after service). *See Fed. R. Evid. 703.* Moreover, the testing standard Ms. Smith used explicitly warns that OIT results can be “misleading” and “uncertain and subjective” regarding the life expectancy of the tubing at issue. Thus, any probative value of the OIT results cited by Ms. Smith would be substantially outweighed by the unfair prejudice of presenting misleading and subjective evidence to the jury. *See Fed. R. Evid. 403; see also Daubert*, 509 U.S. at 589-90 (Rule 702 requires “a grounding in the methods and procedures of science” and “more than subjective belief or unsupported speculation”).

2. **Ms. Smith's FTIR testing and conclusions drawn therefrom should be excluded because the test method she used is not intended for use with PEX Tubing and her subjective interpretation of the results is unreliable.**

As part of her Tubing analysis, Ms. Smith performed Fourier Transform Infrared Spectrometry ("FTIR") to evaluate select pipe samples for oxidative degradation. (Ex. E at 59.) The FTIR method utilized by Ms. Smith tests the first one-half to five microns of surface depth of the material to determine if any oxidation is present on the surface tested. (Ex. F, Smith Dep. at 213:24-214:6.) Her results purportedly indicate that "[e]ach failed pipe consistently showed significant oxidation at the interior surface." (Ex. E at 66.) Ms. Smith should be barred from relying on these FTIR results because the method she claims to have used is intended only for surgical implants, not PEX Tubing, and because she has no scientific basis for using her FTIR results to evaluate the impact of the minuscule levels of oxidation observed on the service life of PEX Tubing.

Despite the availability of 165 Tubing samples (Ex. E at 33), Smith performed FTIR analysis on just five specimens of Tubing from the named Plaintiffs' homes. (*Id.* at 59.) This analysis supposedly was done "in general accordance with ASTM F2102," which is a "Standard Guide"<sup>8</sup> outlining a "method

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<sup>8</sup> An ASTM Guide is "[a] compendium of information or series of options that does not recommend a specific course of action." It is "intended to increase the awareness of the user concerning available techniques in a given subject area." *See* footnote 6, *supra* (Wilhelm, "Know Your Types of Standards.)

for the measurement of the relative extent of oxidation present in ultra-high-molecular-weight polyethylene (UHMWPE) intended for use in medical implants.” (*Id.*; Ex. K.) PEX Tubing undisputedly is *not* UHMWPE “intended for use in medical implants,” however. (*Id.*) Because ASTM F2102 is intended for measuring oxidation in medical implants rather than PEX Tubing, Ms. Smith’s FTIR analysis is clearly not the type of data on which experts in her field reasonably rely. *See Fed. R. Evid. 703.* Her analysis should be excluded for that reason alone.

Even if Ms. Smith’s FTIR data could properly and reliably be used to measure oxidation in PEX Tubing (and it cannot), Ms. Smith still uses the results improperly. ASTM F2102 warns that “there is no clear correlation between the extent of oxidation or the oxidation profile present in a sample of UHMWPE and its functional characteristics. For this reason, no maximum SOI, MOI, or BOI has been specified in this document.”<sup>9</sup> (Ex. J § X1.8.)

Similar to the warnings contained in the OIT standard, Ms. Smith ignores the express warning contained in ASTM F2102. She claims the five specimens she tested “consistently showed significant oxidation at the interior surface.” (Ex. E at 66; *see also id.* at 62-65, Table 4 (“Oxidation Index”)). She does not define what constitutes “significant oxidation” and does not cite any literature that does so. As

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<sup>9</sup> SOI is “surface oxidation index,” “MOI” is “maximum oxidation index” and “BOI” is “bulk oxidation index.” (Ex. K §§ 6.6, 6.7 & 6.8.)

noted, ASTM F2102 does not provide a maximum surface oxidation index given the lack of a clear correlation between the extent of oxidation and functional characteristics. But Ms. Smith nonetheless uses her SOI results to conclude:

The high degree of oxidation detected at the interior surface of the incident pipes, coupled with significantly less oxidation at the exterior surface, indicated within a reasonable degree of scientific certainty that the pipe degradation was not appreciably influenced by ultraviolet radiation or an external heat source, but rather that the pipes consistently degraded preferentially at the interior surface (where the pipe was in contact with potable water) due to insufficient stabilization of the PEX material.

(*Id.* at 66.) Again, Ms. Smith cites no published literature or studies that support her expanding use of ASTM F2102 to evaluate PEX Tubing or interpreting surface oxidation results in this way.

Given the lack of a clear correlation between the extent of oxidation and functional characteristics of ultra-high-molecular-weight polyethylene, Ms. Smith's opinions regarding the meaning of her FTIR results regarding PEX Tubing cannot possibly be made with any degree of scientific certainty. Ms. Smith essentially took a test method outlined in an ASTM guide intended for use with a completely different category of product, determined the results to have shown "significant oxidation" based on her own subjective interpretation of an inapplicable testing methodology, and then drew a correlation from her test results that has no basis in the methods employed by any experts in her field. As such, the Court should prohibit Ms. Smith's testimony regarding her FTIR testing as

unreliable, methodologically flawed, and speculative. *See Schneider*, 320 F.3d at 405 (including peer review and general acceptance in the relevant scientific community as factors in admissibility of expert testimony).

3. **Ms. Smith's gel testing and conclusions drawn therefrom should be excluded because she did not follow the test method, she did not account for her deviation from the test method, and she relied on previously undisclosed Tubing retrieved from individuals who are not named plaintiffs.**

Ms. Smith performed testing on 18 “representative pipe samples . . . to determine the degree of cross-linking (the gel content) in the PEX material.” (Ex. E at 71.) She claims to have done this “in general accordance with ASTM D2765 – Method B” but admits to deviating from that method in two material ways, including her use of a chemical known as xylene to conduct the testing. (*Id.*) Ms. Smith contends that based on her (albeit improper) testing, only four of the 18 samples were found to be under-crosslinked, though only three samples actually measured below 65%. (*Id.* at 71, 87 ¶ 15; *see* Table 6, page 23, *infra*.)

ASTM F876 requires that unused PEX tubing, when tested in accordance with ASTM D2765 – Method B, have a degree of crosslinking between 65% to 89%. (Ex. J, ASTM F876 §§ 6.8, 7.9.) ASTM D2765 is the “Standard Test Method for Determination of Gel Content and Swell Ratio of Crosslinked Ethylene Plastics.” (Ex. L.) It lists both decahydronaphthalene (decalin) and xylene as possible reagents depending on the method used, but Test Method B (which she

utilized) requires the use of decalin. (*Id.* at §§ 9.1, 9.2, 17.2) Because Ms. Smith's use of xylene to test the crosslinking of Tubing specimens that have been removed from service is not permitted by ASTM F876, her xylene results should be excluded from consideration as unreliable.<sup>10</sup>

Perhaps anticipating a challenge to her testing method, Ms. Smith performed gel testing on three samples, which she selected "somewhat randomly," using both xylene and decalin. (Ex. F, Smith Dep. at 530:17-531:6.) She displayed her gel testing results in Table 6 of her Report, which is reproduced on the next page.

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<sup>10</sup> See *Pella*, 214 F. Supp. 3d at 490 (granting defendant's motion to exclude plaintiffs, finding that plaintiffs' water testing failed to comply with the applicable ASTM standard or any identifiable standard); *Dyson, Inc. v. Euro-Pro Operating LLC*, No. 14 C 9442, 2015 WL 1120006, at \*15-17, \*21-22 (N.D. Ill. March 10, 2015) (declining to consider testimony and test results that did not meet the requirements of the applicable ASTM testing standards).

**Table 6**  
Gel Content Analysis of NIBCO PEX 1006 Pipes

PPX #	Homeowner	Class Action/Project	Gel Content (% Crosslinked)	ASTM F876 Requirement (%)	Conformed to ASTM-F876?
PPX-105	Medders	Cole Named Plaintiff	65.0	65.0-68.0	(barely)
PPX-86	Peperno	Cole Named Plaintiff	67.3	65.0-68.0	YES
PPX-41	Lockett	Cole Class Member	67.7	65.0-68.0	YES
PPX-40	McCoy	Cole Named Plaintiff	68.3	65.0-68.0	YES
PPX-171	Cole	Cole Named Plaintiff	68.4	65.0-68.0	YES
PPX-13	Foley	Cole Class Member	67.3	65.0-68.0	YES
PPX-81A	McMahon	Cole Named Plaintiff	64.0	65.0-68.0	NO
PPX-46	Sminkey	Cole Named Plaintiff	70.6	65.0-68.0	YES
PPX-1	McCoy	Cole Named Plaintiff	70.4	65.0-68.0	YES
PPX-129	McLaughlin	Meadow Named Plaintiff	70.3	65.0-68.0	YES
PPX-39	Cole	Cole Named Plaintiff	66.2	65.0-68.0	YES
PPX-31	Cole	Cole Named Plaintiff	64.7	65.0-68.0	NO
PPX-116	Plisko	Meadow Named Plaintiff	66.8	65.0-68.0	YES
PPX-14	Burgos	Cole Class Member	61.0	65.0-68.0	NO
PPX-136	McLaughlin	Meadow Named Plaintiff	71.3	65.0-68.0	YES
PPX-116	Plisko	Meadow Named Plaintiff	67.7	65.0-68.0	YES
PPX-119	Plisko	Meadow Named Plaintiff	67.1	65.0-68.0	YES
PPX-136	McLaughlin	Meadow Named Plaintiff	71.4	65.0-68.0	YES
PPX-1	McCoy	Cole Named Plaintiff	72.5	65.0-68.0	YES
PPX-116	Plisko	Meadow Named Plaintiff	69.2	65.0-68.0	YES
PPX-116	Plisko	Meadow Named Plaintiff	69.1	65.0-68.0	YES
PPX-136	McLaughlin	Meadow Named Plaintiff	72.2	65.0-68.0	YES
PPX-1	McCoy	Cole Named Plaintiff	72.1	65.0-68.0	YES
PPX-136	McLaughlin	Meadow Named Plaintiff	72.1	65.0-68.0	YES
<b>Never-installed tubing – PEX 1006<sup>63</sup> (08/21/13-1, DR06-058-1-13)</b>			NIBCO-Meadow	68.0	65.0-68.0 YES
<b>Never-installed tubing -PEX 3308<sup>64</sup> (05/03/12-2, FRO6-086-4-12)</b>			NIBCO-Meadow	67.6	65.0-68.0 YES

(Ex. E at 72.)

The first 18 results displayed are from the xylene testing; the bottom six are from the decalin testing. (*Id.*) Ms. Smith admits that in her experience, gel testing done using decalin results in a higher percentage – about two percentage points. (Ex. F at 531:7-11.) She further admits that had she strictly complied with ASTM F876, *i.e.*, used decalin, she would have expected the numbers to be one or two

percentage points higher. (*Id.* at 532:13-17.) In fact, Ms. Smith results reflect this, as all of the decalin results are about two percentage points higher than corresponding results when the same specimen was tested using xylene. (See Table 6, *supra*.) Her use of xylene thus resulted in artificially lower results, and her error is compounded by the fact that her use of xylene does not comport with the relevant standards she cites as the foundation for her opinion. Thus, factoring in the admitted 1%-2% rise anticipated had decalin been used, there would have been just one alleged gel testing “failure” out of the universe of samples tested.

The four specimens that Ms. Smith claims are failures for gel content appear to be the four that she has depicted in red. Strangely, Ms. Smith shows the gel content for PPX-105 from the Medders home as red even though that specimen actually had a passing gel content of 65.0%, which is within the range required by ASTM F876. In the final column, Ms. Smith stubbornly refuses to acknowledge the plain truth that the specimen met the standard, choosing to characterize the score as “barely” conforming.

Two purported failures—PPX-81A from the McMahon home (64.0) and PPX-31 from the Cole home (64.7)—had results just below the 65% threshold. As Ms. Smith admitted (and as her testing shows), she would expect her results to be one or two percentage points higher had she used decalin, which would have

resulted in a passing grade for these two specimens. (Ex. F at 532:13-17.) In telling fashion, Ms. Smith did not test either PPX-81A or PPX-31 using decalin.

Another purported failure, PPX-14, is from the home of Burgos. Burgos is described as a “Cole Class Member” even though no class has been certified and it is uncertain whether, and if so how, Burgos would satisfy any class definition. Two other specimens that passed, PPX-13 from the home of Foley and PPX-41 from the home of Lockett, are also included in Table 6. As discussed in Section F, *infra*, those results should not be considered because those homeowners were not properly disclosed during discovery, preventing NIBCO from conducting discovery regarding those homes.

Because Ms. Smith’s gel testing was not done in accordance with the applicable standard and included results for non-parties to this action who were properly not disclosed to NIBCO, Ms. Smith’s gel testing and opinions derived therefrom should be excluded as unreliable and speculative.

**C. Ms. Smith’s Opinions On The PEX Products Should Be Excluded Because Her Testing Is Not Appropriately Representative Of A Number Of NIBCO Products In Service.**

Even if Ms. Smith’s testing and opinions regarding NIBCO’s PEX Products are valid with regard to the limited number of samples she has examined (and they are not), Ms. Smith provides no basis to expand her opinions to over 39 million pounds of Tubing or 35 million Fittings sold by NIBCO. (*See* Ex. D, Coe Decl. ¶¶

23, 25.) Plaintiffs propose a class that includes “All persons who reside in [the respective State] who took possession of or constructed homes or other residential structures . . . in which NIBCO PEX 1006 tubing and/or yellow brass fittings were installed.” (Doc. 109 at 3.) Thus, any person whose home includes some Tubing or Fittings is included in their putative class as defined.

**1. Ms. Smith tested a statistically insignificant amount of Tubing and Fittings compared to the amount sold.**

Ms. Smith says that “[i]ncluding the incident pipes, 165 PEX plumbing assemblies and components were removed from [the named Plaintiffs’] homes for laboratory inspection and analysis.” (Ex. E at 29.) This total includes “failed and non-failed pipes and dozens of associated corroded brass fittings and fractured clamps” related to both the *Cole* and *Meadow* putative class actions. (*Id.* at 40, ¶ 8.) But Ms. Smith’s actual testing was much more limited. Rather than perform the same battery of tests on each piece of Tubing that was collected, or even every piece of failed Tubing, Ms. Smith cherry-picked a small number of samples to perform certain tests on. For example, she performed OIT testing on just seven samples from the named Plaintiffs’ homes, FTIR testing on just five samples, and gel contesting testing on just 11 samples. (Ex. M at 94.) And these specimens do not appear to overlap, *i.e.*, it is unclear whether she performed a fully battery of tests of any single piece of Tubing sample.

Her testing of Fittings was even more limited, as she performed microscopic testing on no more than 13 Fittings. Thus, Ms. Smith tested a statistically insignificant number of specimens considering that NIBCO sold over 39 million pounds of Tubing and 35 million Fittings before leaping to sweeping generalizations about these products.

**2. NIBCO's warranty claim data contradicts Ms. Smith's opinion of a widespread problem.**

NIBCO's warranty data further demonstrates that there is no widespread problem, and that more than 99% of its PEX Products sold have not had any reported leak. NIBCO has analyzed its warranty claim data for 2007-2015. Based on that analysis, nationwide, only 756 claims were made regarding the Tubing and only 203 claims were made regarding the Fittings.<sup>11</sup> Those totals would be significantly reduced if only warranty claims in the states-at-issue are considered. (See Ex. C, McCoy Decl. ¶¶ 28, 33.)

From her limited testing, Ms. Smith concludes that all Tubing “is likely to fail prematurely” and the Fittings are “inherently vulnerable to premature failure.” (Ex. E at 14, ¶¶ 5, 7.) “But [d]ata from [a] sample can be extrapolated to describe the characteristics of the population” only under rigorous standards of statistical validity. National Research Council-Federal Judicial Center, *Reference Manual on Scientific Evidence*, 226-27 (3d ed. 2011). Ms. Smith makes no attempt to apply

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<sup>11</sup> See footnote 1, *supra* page 5.

this requirement. Moreover, she has not shown that her test methods are generally used to diagnose a product-wide defect in the PEX industry or provided any peer-reviewed literature supporting her methodology. *See Pella*, 214 F. Supp. 3d at 492 (concluding that plaintiffs could not rely on their testing to show that their findings can be reliably applied to all of the windows at issue).

**3. Ms. Smith's test results are unreliable because she overly focused only on failed PEX Tubing and Fittings.**

Additionally, by focusing most of her testing on only failed Tubing or Fittings from the named Plaintiffs' homes, Ms. Smith's findings reflect selection bias. "Courts have recognized the need for non-biased, representative sampling in various contexts where experts have attempted to draw generalizable conclusions from limited data." *Id.* In *Pella*, the plaintiffs' expert's "inspections and testing focused almost exclusively on Windows owned by the named plaintiffs in [the] litigation." *Id.* at 493. This focus "would seemingly tend to overstate the incidence of Window problems in the overall population." *Id.* *See also Orthoflex, Inc. v. ThermoTek, Inc.*, 986 F. Supp. 2d 776, 805 (N.D. Tex. 2013) (rejecting proffered analysis of a "sample ... used to justify a conclusion about the failure rate for *all* [of a set of] products," where the sample "included *only* those products that had been returned for an alleged failure: a subset that had a greater-than-average probability of exhibiting a problem").

The *Pella* court concluded that “without other indicia of reliability, when an expert attempts to draw conclusions about an entire population from a sample-based analysis, ‘the sample[ ] must be chosen using some method that assures the sample[ ] [is] appropriately representative of the larger entity or population being measured.’” *Id.* (quoting *Allgood v. Gen. Motors Corp.*, 2006 WL 2669337, at \*11 (S.D. Ind. Sept. 18, 2006)). Ms. Smith has made no attempt to do that here. Instead, most if not all of her testing was done on Tubing involved in plumbing leaks in the named Plaintiffs’ homes. Although she had access to at least 165 plumbing assemblies, including non-incident Tubing and Fittings, Ms. Smith did not test an appropriately representative sample such that she can draw reliable conclusions on these products as a whole.

**4. Ms. Smith admits that PEX products can fail for a number of reasons unrelated to the defects she alleged here.**

Notably, Ms. Smith claims that all of the Tubing has the same defect because it is made using an identical formulation and process. (Ex. E at 92.) However, Ms. Smith admitted that she can only say with a reasonable degree of certainty that the Tubing in the United States all has the same defect, not whether it has failed or even will fail as a result of the alleged defect. (Ex. F, Smith Dep. at 430:6-431:7.) She also concedes that Tubing can fail for reasons unrelated to any alleged defect. (*See id.* at 162:8-164:19 (freezing, temperature, physical damage can lead to leaks); *id.* at 237:15-24 (“As we said before, PEX tubing can fail due to

a variety of reasons . . . .”). In fact, that was her conclusion in a different matter brought against a plumber, i.e., the NIBCO Tubing failed because of excessive water pressure that Ms. Smith blamed on improper installation. (Ex. G at 3, ¶ 4.) Thus, even Ms. Smith concedes that the defect she alleges in NIBCO Tubing is not the cause of every plumbing leak in a system with that Tubing.

Ms. Smith also admitted that Fittings can fail for a variety of reasons. (Ex. F, Smith Dep. at 72:16-73:24.) She agreed that just because a plumbing component is vulnerable to failure or defective does not mean that component will necessarily fail. (*Id.* at 74:6-17.) Indeed, Ms. Smith demurred on the question of whether vulnerability to dezincification means that a Fitting will fail in a way that allows water to escape within the normal anticipated life of that Fitting, saying she does not have enough experience with the Fittings to know. (*Id.* at 39:15-40:7.)

**D. Ms. Smith’s analysis and opinions regarding NIBCO’s Fittings lack sufficient data and are unreliable.**

Ms. Smith claims that NIBCO’s PEX Fittings are “inherently vulnerable to premature failure” because of the alloy they are made from, i.e. a brass alloy containing more than 15% zinc, is susceptible to dezincification corrosion and stress corrosion cracking. (Ex. E at 14, ¶¶ 6, 7.) She claims that premature failures of this type “have occurred in at least two homes from this class action.” (*Id.* at ¶ 6) Ms. Smith’s testing and analysis do not meet the *Daubert* standard and she does not have sufficient evidence to extrapolate her findings to all 35 million Fittings

sold by NIBCO. *See Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 43 F.3d 1311, 1315-16 (9th Cir. 1995) (“something doesn’t become ‘scientific knowledge’ just because it’s uttered by a scientist”). Moreover, her findings with regard to the two homes with alleged Fittings failures are contradicted by the evidence.

**1. NIBCO’s Fittings are NSF certified and made by an ASTM-approved alloy.**

NIBCO’s Fittings have been certified by NSF as compliant with the NSF standards for use in potable water systems (Standards 14 and 61) and compliant with ASTM F1807, including being manufactured from compliant alloy. (Ex. N, Clark Decl. ¶¶ 21-22.)<sup>12</sup> Ms. Smith does not claim that NIBCO failed to manufacture its Fittings in compliance with F1807.<sup>13</sup> Instead, she takes the position that even if NIBCO’s Fittings were manufactured in conformance with industry standards, they are still defective.

This is not the position Ms. Smith took when hired by her previous employer, Uponor, to defend F1807 yellow brass fittings with greater than 15% zinc, like NIBCO’s Fittings. In that case, Ms. Smith had no problem with the design of F1807 yellow brass fittings. Specifically, she opined that the F1807

<sup>12</sup> In 2011, NIBCO did discover that one of its vendors, LINX, manufactured certain yellow brass fittings using an alloy other than that specified by NIBCO. LINX did this without NIBCO’s knowledge or approval, and LINX admitted that this occurred. (Ex. C, McCoy Decl. ¶ 43; Ex. A, Lawrence Decl. ¶ 10.)

<sup>13</sup> Smith also has no opinion on what percentage of Fittings sold from 2006 to 2012 failed to meet ASTM F1807. (Ex. F, Smith Dep. at 61:10-22, 62:6-15.)

“design has been successfully used in the plumbing industry for a number of years” and blamed the failure on the vendor’s deviation from the F1807 design, not Uponor’s material selection. (Ex. H, Smith Aff. ¶ 14.)

**2. Ms. Smith’s has insufficient data to support her conclusions that all NIBCO Fittings are vulnerable to premature failure.**

Ms. Smith says she subjected all brass Fittings “associated with the incident plumbing assemblies” to both unaided visual inspection and microscopic inspection. (Ex. E at 74.) She claims her microscopic inspection “revealed at least some degree of dezincification corrosion in nearly every NIBCO brass fitting examined.” (*Id.* at 81.) The presence of dezincification on these specimens is unremarkable; yellow brass alloys are subject to the phenomenon known as dezincification. (Ex. N, Weishaupt Report at 8-9.) But Ms. Smith’s claim that yellow brass fittings are “vulnerable to premature failure due to dezincification” is without any scientific basis.

Between *Cole* and *Meadow*, Ms. Smith claims to have subjected “dozens” of brass fittings and clamps to destructive testing. (Ex. E at 40, ¶ 8.) But she performed metallography on no more than 13 samples and SEM on only two Fitting samples from the homes of the *Cole* named Plaintiffs. As noted, Fittings failed in only two of these homes. The number of Fittings Ms. Smith examined, and the number that actually failed in service, is infinitesimal compared to the

approximately 35 million yellow brass Fittings that NIBCO has sold. (Ex. D, Coe Decl. ¶ 25.)

Ms. Smith seems aware of the limitations of her testing and analysis. She admitted that she cannot determine when a NIBCO Fitting is going to fail. (Ex. F, Smith Dep. at 77:24-78:19; 138:18-21.) She claims that “no one” has enough experience with NIBCO’s PEX Fittings to know whether or how they are all going to fail within, for example, **50 years.** (*Id.* at 39:15-40:7.)<sup>14</sup> But that is precisely her role, as a proposed expert, to attempt to provide a reliable, scientific data and conclusions based on peer-reviewed science and generally acceptable principles that will aid the jury in this matter. Clearly, the idea that microscopic analysis of about a dozen NIBCO Fittings is proof that all such Fittings will fail within their useful life (however that is defined) is too great a leap of logic even for Ms. Smith.

Because Ms. Smith’s opinions regarding NIBCO’s Fittings are clearly not supported by the rigorous application of scientific principles, those opinions are unreliable and should not be admitted under *Daubert*.

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<sup>14</sup> In fact, the duration of the NIBCO Limited Warranty is only for 25 years, assuming only NIBCO PEX components and installation accessories are used. The duration is just 10 years if non-NIBCO components, parts or and accessories are used. (Ex. O.)

**3. Ms. Smith's conclusions are unreliable because her analysis of the only two homes with actual Fittings failures is contrary to the evidence.**

Ms. Smith considers a Fitting to have failed if it lets water get out or fractures resulting in a high volume loss of water. (Ex. F, Smith Dep. at 36:17-23.) In other words, water either weeps through the wall of the fitting or the fitting breaks in two, causing loss of water. (Ex. E at 92.) Ms. Smith concedes that in this case, premature Fitting failures occurred in only two of the named Plaintiffs homes. (*Id.* at 14, ¶ 6; *id.* at 34.) Ms. Smith's conclusion that NIBCO's material selection was the cause of the Fitting failures in these homes ignores significant evidence to the contrary.

In the Monica home, the dezincification corrosion led to "meringue" forming on the Fittings and allowing water to seep through the walls of the fittings, wetting adjacent stainless steel clamps. (*Id.* at 38-39.) NIBCO's expert found that with regard to the Monica home (which Ms. Smith did not inspect), all seven fittings submitted for analysis were found to exhibit some form of improper installation of the clamp or crimp, which can lead to inadequate sealing of the fitting to the tube. (Ex. N at 53 & App'x F.) Moreover, not all of the fittings exhibited through-wall dezincification, let alone through-wall porosity that would allow water to escape through the wall of a fitting. (*Id.* at 55.) Additionally, the plumbing in the Monica home was not installed by licensed plumbers (Ex. P,

Monica Dep. at 84:8-13; Ex. Q, Roman Dep. at 28:21-29:12), which voids the NIBCO Limited Warranty (*see* Ex. O). In fact, Mr. Monica, a lawyer, filed a lawsuit against his plumbing company, claiming, among other things, that the PEX tubing and fittings were improperly installed in his home, causing property damage. (Ex. R, First Am. Comp. ¶¶ 13-14.). Mr. Monica received a \$12,750 settlement from that lawsuit. (Ex. S, Release.)

In the Medders' home, Ms. Smith claims the fractured Fittings were the result of the combined effects of stress corrosion cracking and dezincification. (*Id.* at 37.) The Fittings in the Medders' home were also installed improperly. For example, one of the incident Fittings available was found to have been installed improperly in a way that has "the tendency to increase tensile stresses." (Ex. N at 58-59.) In fact, all 20 Fittings examined from the Medders' home were found to have been improperly installed. (*Id.* at App'x F.) Moreover, it appears that at least some of the Fittings from the Medders' home "have a base material chemistry that is not consistent with any of the materials known to be used by NIBCO to manufacture F1807 brass fittings." (*Id.*) Indeed, NIBCO compensated the Medders' insurance company when it made a warranty claim to NIBCO after it was determined that the Fitting at issue was made by vendor LINX from a non-specified alloy. (Ex. C, McCoy Decl. ¶¶ 43-45.) Ms. Smith was either not aware of or completely ignored this fact.

**E. Ms. Smith's analysis and opinions regarding NIBCO's Clamps lack sufficient data and are unreliable.**

Ms. Smith's analysis and opinions regarding NIBCO's Clamps should also be excluded because she lacks sufficient data. She claims that NIBCO's PEX Clamps are "vulnerable to premature failure" because they are made with austenitic steel, which makes them subject to stress corrosion cracking. (Ex. E at 14, ¶ 8.) The only allegedly failed Clamps came from the Monica house, which Ms. Smith did not visit. (*Id.* at 39.) All seven fittings from the Monica house analyzed by NIBCO's expert were found to exhibit some form of improper installation of the clamp or crimp, which can lead to inadequate sealing of the fitting to the tube.<sup>15</sup> (Ex. N at 53 & App'x F.) The "improper clamping of the Monica fittings resulted in a competent lead path for water." (*Id.* at 55.) In other words, the inadequate seal between the Fittings in Tubing in the Monica home allowed water escape the plumbing system, promoting corrosion of the Fittings and Clamps. Thus, Ms. Smith's opinions NIBCO's Clamps should also be stricken.

**F. Ms. Smith's opinions are premised upon inadmissible data from other lawsuits.**

Ms. Smith's opinions should further because they are based upon data compiled by her solely for purposes of other litigation. Under Rule 703, expert opinions based on otherwise inadmissible facts and data are to be admitted only if

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<sup>15</sup> As noted above, the Monica home was not installed by licensed plumbers. (Ex. P, Monica Dep. at 84:8-13; Ex. Q, Roman Dep. at 29:1-30:3.)

the facts and data are “of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject.” Fed. R. Evid. 703. In the Third Circuit, “the proper inquiry is not what the court deems reliable, but what experts in the relevant discipline deem it to be.” *In re Paoli*, 35 F.3d at 747 (“We have held that the district judge must make a factual finding as to what data *experts* find reliable.”) (citations and quotations omitted) (emphasis in original). “If the underlying data are so lacking in probative force and reliability that no reasonable expert could base an opinion on them, an opinion which rests entirely upon them must be excluded.” *Id.* at 748 (citations and quotations omitted).

An expert must utilize in the courtroom “the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” *Kumho*, 526 U.S. at 152. Expert opinions generated as the result of litigation have less credibility than opinions generated as the result of academic research or other forms of “pure” research. *See, e.g., Daubert*, 509 U.S. at 593 (identifying whether opinion was generated to further litigation or was subject of peer review as factoring into admissibility); *Nat'l Bank of Commerce v. Dow Chem. Co.*, 965 F. Supp. 1490, 1516 (E.D. Ark. 1996) (“[T]he expert’s motivation for his/her study and research is important . . . [W]e may not ignore the fact that a scientist’s normal work place is the lab or field, not the courtroom or the lawyer’s office.”) (quoting *Daubert*) (internal quotations omitted).

As a result, courts may refuse to admit expert testimony based upon data and reports prepared for purposes of other litigation. *See United States v. Tran Trong Cuong*, 18 F.3d 1132, 1143-44 (4th Cir. 1994) (holding that doctor's report prepared at request of counsel for government was a forensic medical opinion and not of the type relied upon by experts in forming opinions) ("Reports specifically prepared for purposes of litigation are not, by definition, 'of a type reasonably relied upon by experts in [a] particular field.'"); *see also Soden v. Freightliner Corp.*, 714 F.2d 498, 502-06 (5th Cir. 1983) (district court did not err in excluding an expert's opinion that was based on unpublished statistics which were prepared in anticipation of litigation).

Here, Ms. Smith attempts to bolster her findings in this case by referring to evidence developed for litigation in other jurisdictions. Ms. Smith should be barred from referring to or relying on her work against NIBCO in this other litigation because the data and information she gathered in those cases is not admissible or a reliable basis for expert testimony in this case.

Under Fed. R. Evid. 401, evidence is "relevant" if it "has any tendency to make a fact more or less probable than it would without the evidence" and "the fact is of consequence in determining the action." Evidence of other injuries or incidents, though potentially relevant, is generally not admissible unless the circumstances of the other occurrences are "substantially similar" to those in the

case at hand. *Soldo v. Sandoz Pharm. Corp.*, 244 F.Supp.2d 434, 550-51 (W.D. Pa. 2003) (citing *Barker v. Deere and Co.*, 60 F.3d 158, 162 (3d Cir. 1995) (noting that “substantially similar” standard is held by all other federal courts of appeal)). That the other injuries involve the same product “is not enough to make the [evidence] admissible even under the liberal standard of admissibility of Fed. R. Evid. 401.” *Gumbs v. Int’l Harvester, Inc.*, 718 F.2d 88, 98 (3d Cir. 1983) (reversing admission of prior accidents allegedly due to same product).

The mere fact that Ms. Smith has purportedly analyzed over 750 pieces of Tubing during her work against NIBCO in other litigation does not make those occurrences admissible. Plaintiffs bear the burden of establishing that prior accidents “occurred under circumstances substantially similar to those at issue in the case at bar.” *Nesbitt v. Sears, Roebuck & Co.*, 415 F. Supp. 2d 530, 535–36 (E.D. Pa. 2005). For this Court “to make a finding of substantial similarity, and, therefore, to permit the admission of such evidence, the court ‘must be apprised of the specific facts of previous accidents.’” *Id.* at 536 (quoting *Barker*, 60 F.3d at 163). This is especially important in cases where the evidence is proffered to show the existence of a design defect. *Barker*, 60 F.3d at 162.

Thus, it is not enough that Ms. Smith’s previous work against NIBCO in *Comer*, *Christianson*, *MiCasita*, and *Parsons* involved the same Tubing or similar testing and analysis. Plaintiffs must apprise the Court of the specific facts of each

of the failures Ms. Smith examined in these cases before those incidents are admissible. For example, facts regarding the installation and environmental conditions at the other homes with alleged Tubing defects would be relevant to any finding of similarity. Ms. Smith admits that plumbing can fail because of improper installation. (Ex. F, Smith Dep. at 71:18-20.) Significantly, Ms. Smith found in another case involving the Tubing that the home had “very unique installation conditions” and concluded that pressure was the “predominating mechanism” for the failures that home, not the design of the Tubing. (*Id.* at 173:13-175:10.)

Because installation and environmental conditions in each home in which the Tubing allegedly failed is relevant to what caused each failure, Plaintiffs will need to present evidence regarding the specific facts underlying each failure Ms. Smith intends to rely on. And if such evidence is admitted, NIBCO will, of course, be allowed to rebut that evidence at trial. For example, should Ms. Smith be permitted to talk about *Christianson*, NIBCO will present its evidence regarding the poor installation practices by the original plumbers in that case. (Ex. M at 108 (noting excessive bending and impingement caused failures).) This will lead to lengthy, confusing mini-trials regarding other litigation in the middle of an already complex products liability case.<sup>16</sup>

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<sup>16</sup> For the same reasons, Ms. Smith should be excluded from discussing the Meadow named plaintiffs in this matter.

Unless evidence regarding Tubing failures addressed in other litigation is admissible, Ms. Smith cannot rely on them as part of her opinions or testimony. *See Soldo*, 244 F. Supp. 2d at 550-51 (excluding expert witnesses from relying on evidence of other injuries). Such testimony would “likely to lead to jury misdecision based on inflamed passions, confusion of issues or the like.” *Id.* (quoting *Corrigan v. Methodist Hosp.*, 874 F. Supp. 657, 658 (E.D. Pa. 1995)) (internal quotation marks omitted). Moreover, Ms. Smith’s opinions have not been analyzed pursuant to *Daubert* (or the state-law equivalent) and found to be reliable by the respective courts handling each case she has worked on against NIBCO. This Court should not simply take Ms. Smith’s word for it that these other cases are the same and that her data and opinions in those cases are reliable.

Similarly, Ms. Smith should not be able to base her opinions on work done by another designated expert in a separate case without her participation. Specifically, she should not be able to cite to or rely on the work done by Plastic Failure Labs in the Pulte Homes case. An expert cannot simply “assume[ ] the correctness” of another “expert’s proposition” without any “attempt to assess the validity” of that opinion and any underlying assumptions. *In re TMI*, 193 F.3d at 714-15. A failure to validate the other expert’s conclusions renders the relying expert’s opinion “somewhat analogous to the last domino in the line that begins to fall when the first domino is toppled.” *Id.* at 715. Like in *TMI*, Ms. Smith’s

“unblinking reliance” on these prior opinions without independent verification fails under Rule 702 and *Daubert*. *Id.* at 716 (affirming exclusion of expert report). Moreover, expert reports prepared specifically for litigation are not the type reasonably relied upon by experts. *See Tran Trong Cuong*, 18 F.3d at 1143-44.

Finally, Ms. Smith should not be able to rely on her testing and analysis of Tubing from the homes of four so-called “non-named class members” or putative “Cole class member[s].” (*See* Ex. E at 13, 72.) Such evidence is inadmissible for at least two reasons. First, neither Plaintiffs nor NIBCO inspected these homes, so the plumbing installation and environmental conditions in these homes is unknown. Thus, Plaintiffs cannot and will not be able to establish that the failures of the Tubing from those homes were substantially similar to that of named Plaintiffs’ Tubing. Second, as the moniker “non-named Plaintiffs” suggests, these people were not named as Plaintiffs in this matter. In fact, they were not disclosed to NIBCO in Plaintiffs’ Rule 26 disclosures as persons “likely to have discoverable information that Plaintiffs may use to support their claims.” *See* Fed. R. Civ. P. 37(c)(1). (*See* Ex. T, Pls.’ Initial Disclosures.) Ms. Smith’s Report was not issued until March 7, 2017—three weeks after the close of fact discovery. (*See* Doc. 101.) She should not be able to rely on evidence gathered from persons or homes not properly disclosed to NIBCO during discovery, and for which NIBCO has not had an opportunity to take discovery.

For the foregoing reasons, the Court should preclude Ms. Smith from talking about or rely on her testing and opinions in other litigation or the testing or opinions of other designated experts from other litigation involving NIBCO or the NIBCO PEX Products.

**G. Ms. Smith’s Opinions As To Legal Conclusions Are Not Proper Subjects of Expert Testimony.**

In her report, Ms. Smith indicates that she intends to testify that NIBCO “knew, or should have known” various purported “facts” and that NIBCO “deliberately misrepresented” information to its customers. (*See, e.g.*, Ex. E at 15, ¶¶ 10-12; *id.* at 84-90, ¶¶ 11, 12, 14, 15-17, 23.) Such opinions improperly instruct the jury on the result to be reached and, thus, are inadmissible.

Though an expert’s opinion may “embrace[] an ultimate issue,” “the issue embraced must be a factual one.” Fed. R. Evid. 704(a); *Berry v. City of Detroit*, 25 F.3d 1342, 1353–54 (6th Cir. 1994). “[A]bolition of the ultimate issue rule does not lower the bars so as to admit all opinions.” Advisory Committee Note to Fed. R. Evid. 704. In particular, “an expert witness is prohibited from rendering a legal opinion.” *Berkeley Inv. Grp., Ltd. v. Colkitt*, 455 F.3d 195, 217 (3d Cir. 2006). This approach prevents an expert from “usurp[ing] the District Court’s pivotal role in explaining the law to the jury,” prevents a witness from “invad[ing] the province of the jury,” and avoids a party’s “attempting to introduce law as evidence.” *Id.* at 217; *United States v. Downing*, 753 F.2d 1224, 1229 (3d Cir. 1985); *United States*

*v. Leo*, 941 F.2d 181, 197 (3d Cir. 1991) (quoting *United States v. Unruh*, 855 F.2d 1363, 1376 (9th Cir. 1987)) (internal quotation marks omitted).

Further, expert opinions that purport to define legal terms or speculate about a party's intent, such as a statement that NIBCO "deliberately misrepresented" information, are not admissible as they invade the province of the court and jury. *See* Advisory Committee Notes to Fed. R. Evid. 704 (indicating that federal rules "afford ample assurances against the admission of opinions which would merely tell the jury what result to reach" and that Rules 403, 701, and 702 "stand ready to exclude opinions phrased in terms of inadequately explored legal criteria."). *See also Gallatin Fuels, Inc. v. Westchester Fire Ins. Co.*, 410 Supp. 2d 417, 423 (W.D. Pa. 2006) ("An expert simply is not in any better position than the jury to assess another's subjective intent.") (citations omitted). Thus, Ms. Smith should be barred from opining that NIBCO "deliberately misrepresented" the manufacturing date code on some Tubing. (Ex. E at 85, ¶ 14.)

## **CONCLUSION**

For the above reasons, Defendant respectfully requests the Court grant Defendant's Motion, exclude the Smith Expert Report from evidence at trial, exclude Ms. Smith's testimony as an expert witness, and for such other relief as this Court deems just and proper.

Respectfully submitted,

*/s/ Franco A. Corrado*

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Jean Paul Bradshaw II (*pro hac vice*)  
J. A. (Jay) Felton (*pro hac vice*)  
Kevin M. Kuhlman (*pro hac vice*)  
Rachel E. Stephens (*pro hac vice*)  
2345 Grand Boulevard, Suite 2200  
Kansas City, Missouri 64108-2618  
Tel: (816) 460-5726; Fax: 816-292-2001  
[jbradshaw@lathropgage.com](mailto:jbradshaw@lathropgage.com)  
[jfelton@lathropgage.com](mailto:jfelton@lathropgage.com)  
[kuhlman@lathropgage.com](mailto:kuhlman@lathropgage.com)  
[rstephens@lathropgage.com](mailto:rstephens@lathropgage.com)

J. Gordon Cooney, Jr. (Admitted *Pro Hac Vice*)  
Franco A. Corrado  
Morgan, Lewis & Bockius LLP  
1701 Market Street  
Philadelphia, Pennsylvania 19103-2921  
Tel: (215) 963-5000; Fax: (215) 963-5001  
[gordon.cooney@morganlewis.com](mailto:gordon.cooney@morganlewis.com)  
[franco.corrado@morganlewis.com](mailto:franco.corrado@morganlewis.com)

*Attorneys for Defendant NIBCO, INC.*

**CERTIFICATE OF SERVICE**

I hereby certify that on the 28th day of July, 2017, I served a true and correct copy of the foregoing via electronic mail to the following:

Benjamin F. Johns  
Steven A. Schwartz  
Chimicles & Tikelllis, LLP  
One Haverford Centre  
361 West Lancaster Avenue  
Haverford, PA 19041  
[bfj@chimicles.com](mailto:bfj@chimicles.com)  
[sas@chimicles.com](mailto:sas@chimicles.com)

Bruce Daniel Greenberg  
Lite Depalma Greenberg, LLC  
570 Broad Street, Suite 1201  
Newark, NJ 07102  
[bgreenberg@litedepalma.com](mailto:bgreenberg@litedepalma.com)

Joseph B. Kenney  
Joseph G. Sauder  
Matthew D. Schelkopf  
McCune Wright, LLP  
1055 Westlakes Drive  
Berwyn, PA 19312  
[jgs@mccunewright.com](mailto:jgs@mccunewright.com)  
[mds@mccunewright.com](mailto:mds@mccunewright.com)  
[jbk@mccunewright.com](mailto:jbk@mccunewright.com)

Kyle A. Shamberg  
Lite Depalma Greenberg, LLC  
211 W. Wacker Drive, Suite 500  
Chicago, IL 60606  
[kshamberg@litedepalma.com](mailto:kshamberg@litedepalma.com)

*/s/ Franco A. Corrado*

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Franco A. Corrado